

MUNICIPAL JOURNAL AND ENGINEER

VOLUME XX

NEW YORK, FEBRUARY 28, 1906

No. 9

BALTIMORE'S WATER PROBLEM

City and County Interests Clash—Suburbs Want Improved Service—Amendments May Kill \$5,000,000 Loan Bill—New Reservoir at Stake

THE stand taken by Baltimore County, Md., in demanding water service from Baltimore City after the construction of the proposed twenty-billion gallon storage reservoir, on the Gunpowder river, has resulted in a conflict of interests between city and county, and there is a prospect that the bill authorizing a \$5,000,000 city loan for building the reservoir may be defeated in the legislature. Baltimore City's Water Department has completed preliminary estimates showing that it will be impracticable for the city to supply water to the county, even within a mile of the city's limits, as demanded by county officials.

Most of the territory embraced within the one-mile limit is above the 350-foot elevation to which city water can be served with the present pumping facilities. The cost of the necessary pumping stations, a standpipe and mains to supply county residents regularly with water would be very great, leaving little, if any, of the proposed loan for building the reservoir.

POSITION OF THE COUNTY

The county's position is that, owning the water rights along the Gunpowder river, it is entitled to the benefit of water obtained from that source. This claim is denied by the city, and no compromise has yet been reached. One of the county's representatives in the legislature has offered an amendment to the original loan bill, embodying the proposition now in dispute.

Baltimore City's Acting Mayor, Mr. George R. Gaither, says there can be no possible question as to the ownership of water rights in the Gunpowder river. "The city has condemned the water rights," he says, "and recompensed the people living below the Loch Raven dam. It has the right to use a certain amount of the flow of the river, up to 170,000,000 gallons of water a day. Any person or corporation, other than those who have riparian rights, would be prevented by an injunction in any court from taking water from the river above the Loch Raven dam if by taking such water they prevented the city from getting its full 170,000,000 gallons a day.

"The riparian owners along a river have the natural water rights, and the city had to condemn these just as

the county would have to condemn them. The city's riparian rights were established by condemnation proceedings. Nobody could divert the stream above the Loch Raven dam without compensating the city. Likewise nobody, not even the county, could take water from the stream to the injury of the city without compensating the city. The city can build a bigger dam, increase the size of the lake or do anything else it wants in the valley of the Gunpowder, provided it does not take more than 170,000,000 gallons of water a day."

THE WASHINGTON FILTRATION PLANT

**Superintendent E. D. Hardy Reports on its Operation Before Washington Society of Engineers
—The Purity of Water**

Superintendent E. D. HARDY, of the filtration plant, Washington, D. C., during a recent lecture before the Washington Society of Engineers, stated that it costs \$2 per 1,000,000 gallons to filter water, considering all incidental expenses. The plant has been in operation only five months. Two experts, employed daily in analyzing the water from the reservoirs and plant, report that satisfactory bacteria tests have been made. In December and January, when muddy water came from the taps, the tests indicated that the water was comparatively good. For every fifty tons of mud received in the conduit at Great Falls only one ton remains after filtering.

E. F. Longley, Assistant Superintendent, spoke on the purity of water supplies and the improvements that have been installed. He presented a table showing the percentages of deaths in two cities which obtain water from mountain streams to be 4 per cent.; in ten cities having filtered water, 8.3 per cent.; in seven cities having surface water in storage reservoirs, 14.7 per cent.; in eight cities supplied from rivers, with pollution unnoticed, 23.1; seven cities supplied by upland streams and small lakes, 28.5; eleven cities, including Washington, supplied from polluted streams, 60.8; and seven cities supplied from the great lakes, which are polluted by the cities themselves, 80.3 per cent. Mr. Longley stated that great improvement has been noted in the health of a community after improvement in the water supply, an average of several cities showing a reduction of typhoid deaths from 86 per

100,000 population to 20 deaths. The general health was also found to be improved. The number of deaths from all causes in the cases cited was 2,440 before improvement of the water supply, and 1,970 after the improvements. Mr. Longley said that for safety and general economy the slow-sand filters have a slight advantage over the mechanical filters.

Demand for Cheaper Gas

THE widespread agitation for better and cheaper gas, as emphasized in recent action by Chicago, Montreal, Cleveland and other cities, has stirred the Kansas City, Mo., City Council to prompt consideration of an ordinance for an election in April to decide the question of building a municipal lighting plant. The campaign for better rates has yet met no responsive chord, as the local gas company declines to make any concession unless granted a thirty-year franchise, which proposition the city has refused.

Natural gas is being considered as a feature in the situation, but no company will agree to furnish natural gas for a term of years, because the supply is uncertain and may give out at any time. A rate of twenty-five cents a thousand feet for natural gas is considered reasonable at this time, but the difficulties in securing an adequate supply are urged as a barrier by those favoring the proposed construction of a municipal plant. The matter has been further complicated by the introduction before the Council of a compromise ordinance, proposing the following service rates:

"For natural gas, twenty-five cents a thousand feet for three years; twenty-eight cents for the next two years, and thirty cents for a twenty-five-year period." The suspension of the purchase option on the company's plant, so long as the natural gas holds out, is also proposed, the price of manufactured gas to be determined at a later period.

The Acceptance of Paving Bids

A RULE adopted by the Rochester, N. Y., Board of Contract and Supply is stated to aim at preventing a contractor from obtaining a majority petition for a specific kind of paving material and then putting in a bid considerably above the normal figure. The rule is as follows:

"Whenever a particular brand of brick, asphalt or other pavement is designated by a majority of the property owners liable to assessment for a street improvement, pursuant to Section 125 of the City Charter, and, in the judgment of this Board, the bids for that particular kind of pavement are disproportionately higher than other brands of brick, asphalt or other pavement of similar character which are approved by this Board, then such bids shall be rejected."

In order to give all contractors an equal chance of bidding under the new rule, bids received on February 14 were returned to the senders unopened, the work to be readvertised and considered at the next meeting of the Board.

Consolidating Indiana Schools

INTERESTING statistics have just been made public relative to the consolidation of Indiana country schools. Since the movement started, under direction of Fassett A. Cotton, State Superintendent of Instruction, a total of 669 schools have been merged into 280 consolidated schools. Reports received from all counties except Crawford show a sentiment favorable to the project of consolidation in forty-three counties, while nine counties oppose the scheme. Thirty-nine counties refrain from expressing decided views, as the consolidation has not been on trial a sufficient length of time.

Only forty-nine schools in the State are shown to have five pupils or less; 286 schools have between five and ten pupils in regular attendance, and 1,090 schools have between ten and fifteen pupils each. Schools having an attendance of between fifteen and twenty pupils number 1,932. During the last school year, 8,312 children were transported to the consolidated schools at an average cost of \$824.85 per day. The report shows that out of 1,016 townships in the State, 659 have conditions under which children may be furnished school facilities under the consolidation.

Menace in Infected Water

NEW YORK State's Health Commissioner, Dr. Eugene H. Porter, has submitted his annual report, in which he treats at considerable length the question of preventing the pollution of rivers and other sources of public water supply. "During the last year," the report states, "there were 1,554 deaths from typhoid fever in New York State, and it is no exaggeration to say that almost every one of these was caused by infected water."

Dr. Porter says that the "efforts of this Department to prevent further pollution of water supplies should be supplemented by legislation which will give further control of all potable waters in the State." The report adds that legislation should provide that all plans for procuring public water supplies must be approved by the State Health Commissioner.

The Water Supply of Winthrop, Mass.

The litigation over the purchase of the plant of the Revere Water Company by the town of Winthrop, Mass., has been finally settled, a decision having been handed down in the Supreme Court of the State by Justice Braley, who holds that the contract is valid and that the city must pay \$250,000 for the property. The purchase of the plant has been agitated for years, and in March, 1905, the citizens voted to accept the proposition entered into by the Selectmen. Notwithstanding this, the town officials refused to take charge of the plant or collect the tolls, and the rates due last July have remained uncollected. The company also relinquished its control over the plant. It was charged by the town that the purchase price was exorbitant, and that there was conspiracy on the part of the Selectmen.

City Farming

IN a recent address before the Young Men's Christian Association, Washington, D. C., Mr. R. F. Powell, Secretary of the Philadelphia Vacant Lots Cultivation Association, drew an interesting word-picture of what has come to be known as "City Farming," and which has attracted considerable attention during several years, particularly in the Quaker City. Mr. Powell reviewed the work already done, and said that last year more than a thousand families had garden plots provided them by the association. An outgrowth of the work has been the formation of a coöperative farm. There are now forty families interested in the plan, who sold last year \$4,000 worth of vegetables, besides supplying their own tables. Twenty-four acres of land are under cultivation. Gardens for school children have also been established, and it is expected that in the near future there will be a school garden for every school in the city.

Hudson County's New Courthouse

THE Supreme Court of New Jersey must decide whether the award of the County Building Committee of the contract for the new Hudson County Courthouse to Wells Brothers, Chicago, Ill., is legal. The M. T. Connelly Construction Company, whose bid was lower than that of Wells Brothers, brought suit to annul the award before Justice Dixon and the case was certified to the Supreme Court for review, in order that the new building might not be unnecessarily delayed. The bid of E. M. Waldron & Co., Newark, N. J., which was the lowest, was \$114,000 less than that of Wells Brothers.

Public Service Valuations

MAYOR CUTLER, Rochester, N. Y., has been requested by the State Board of Tax Commissioners to transmit figures or other information which may be considered as arguments for increasing the valuations of the franchises of public service corporations. During the past two years the city has succeeded in obtaining an increase aggregating \$900,000, but the corporations have usually been successful in obtaining a reduction of twenty per cent. through the State Board. In a recent address at Buffalo, Mayor Cutler urged that a municipality should have an opportunity to be heard before the State Tax Board in matters of franchise valuations.

Progress in Canada

THE Toronto, Ont., Provincial Health Board, at a recent meeting, approved the Medical Health Act now before the Ontario Legislature, repealing an ordinance adopted nearly a quarter of a century ago and placing municipal affairs on a modern, sanitary basis. The Act makes it impossible for any city to adopt a water supply system not approved by the Board, and provides stringent regulations in regard to sewage disposal, the disinfection of railway cars, street cars and other public vehicles.

The Municipalization Inquiry

MILO R. MALTBIE, one of the expert members of the Public Ownership Commission of the National Civic Federation, has sailed for England to make arrangements for the trip abroad of the entire Commission in May, as has been stated in these pages. The Commission is composed of men representing different views on the subject of public utilities, and its aim is to ascertain in what respect each system has proven satisfactory, leaving the final decision as to municipalization or otherwise to the people directly concerned.

Taxation in Germany

A SCHEME of taxation, which it is proposed to test in Berlin, Germany, taxes properties whenever they change hands at an increase of 10 per cent., or more, beyond what was paid for them by the seller. The proposed impost would vary according to the interval between sales, and other factors, and 20 per cent. is named as the maximum tax upon the increase. The two important cities of Cologne and Frankfurt have already begun experiments with this method, which is eminently characteristic of the national predilection for complication and abstruseness.

Gypsy Moth in New England

WHAT the gypsy moth can do is strikingly shown in a re-print issued by the Proprietors of the Medford (Mass.) *Mercury*, in which the American history of that malignant pest is traced from the escape of some specimens in that city, in 1868, to the present time, when the vegetation of large tracts is either destroyed or threatened. The illustrations, many of them full-page, measuring 6 inches by 9 inches, are alone sufficient to show the magnitude of a task from which the State recoiled and which, so far as the immediate vicinity of Medford is concerned, is being pursued by the public-spirited effort of General Lawrence, a local landowner.

Good Roads in Ohio

AN active campaign for good roads has been inaugurated in Ohio by direction of W. H. Moore, President of the National Good Roads Association. It is proposed to construct a highway across the State; also one through the Commonwealth from North to South. The General Assembly will be urged to make an appropriation for road improvements and to secure the employment of convicts in building roads.

A Railroad Deal

THE controlling interest of the Philadelphia Company of Pittsburg, Pa., has been secured by the United Railways Investment Company, of San Francisco. The Philadelphia Company has controlled the street railway lines and the fuel and lighting privileges of Western Pennsylvania and is incorporated at \$35,000,000, only \$5,000,000 of which has been issued as capital stock.

NEWS OF THE CITIES

What Is Going on Among the Municipalities—Progress the Country Over—Timely Items of Interest

Montreal Officials Are Agreed

THE conflict of authority existing for several years between the Montreal, Canada, Fire Commissioners and Fire Chief Benoit has finally been amicably settled. Full command over the city's Fire Department, with the right of appointment and dismissal, has been granted Chief Benoit, the Fire Commissioners having adopted the following:—

"Resolved,—That absolute control over the firemen be given to the Chief of the Department with full power to appoint and remove them when necessary.

"That all promotions in the Department be hereafter made only upon the recommendation of the Chief, the present Commissioners recognizing the fact that he alone is competent to appreciate the qualities and defaults of the men under him."

Electricity in St. Paul

THE Northern Heating and Electric Company, successor to the Northern Manufacturing Company, a branch of the American District Steam Company, has applied to the City Council of St. Paul, Minn., for an electric light and power franchise covering the entire city. The company now has a franchise for supplying steam for heating purposes in the business district of the city and has laid a large amount of pipe in the streets and erected a central plant at Third and Market streets.

The ordinance for the important extension of powers now applied for provides for a beginning with the work of stringing wires and installing other equipment within six months after its adoption. Another stipulation is that a mile of street frontage is to be so occupied within eighteen months after said adoption.

The Water Supply of Hagerstown, Md.

THE water question is being discussed at Hagerstown, Md., where the advocates of municipal ownership have come out against the water company, which has asked for an increase in rates to provide needed extensions. Mayor Strite suggests that the Mayor and City Council decide on the rates, and insists that more water be obtained, not from Antietam Creek, but from mountain streams.

The Price of Gas in Worcester, Mass.

MAYOR JOHN T. DUGGAN, of Worcester, Mass., has called upon the local Welsbach Company to reduce the price of lights to \$25 each per year from \$28.50, the present price. Representatives of the company are willing to reduce the price to \$27.50, subject to Mayor Duggan binding the city for a period of five years from 1908, when the present contract expires.

Needed Reform at Minneapolis

City Comptroller DAN C. BROWN, of Minneapolis, Minn., has called the attention of Chairman W. E. Satterlee of the City Council Committee on Ways and Means to the necessity for reform in the practice of making appropriations from the fund for public improvements. The fund of more than a million dollars has been depleted by about \$500,000 through a practice of making improvements before the money is actually available. It is recommended that all "revolving fund" work be stopped for one year; and that the permanent improvements be cut down one-half; also that the amount to be expended annually be determined by the City Comptroller and City Engineer before any work is done.

Meridian May Build Water-works

THROUGH a decision of the New York Supreme Court, the City of Meridian, N. Y., may proceed to issue bonds authorized by the Legislature at its last session for the construction of municipal waterworks. Some time ago an effort was made to purchase the local water plant on behalf of the city, but the sale was never consummated, and steps were finally taken for building an independent system. The water company secured a temporary injunction restraining the city from erecting the plant, and the case finally reached the Supreme Court, where a decision dissolving the injunction was rendered. Preliminary plans for the proposed waterworks have already been prepared.

Buffalo's New Charter

THE work of revising the Buffalo city charter, to which reference was made on page 148 of our issue of February 7, is being assisted by suggestions from heads of departments and individuals. Secretary Frederick Almy, of the Charity Organization Society, proposes a reorganization of the city and county poor systems; City Treasurer Shepard wants all checks on the pension fund countersigned by the City Comptroller; E. S. Hawley urges fireproof construction of all public buildings, and Albert H. Jackson, on behalf of the Referendum League, asks the establishment of the referendum and the submitting of the charter itself to the people.

Chicago Loses in Gas Fight

THE protracted struggle of the City of Chicago to sustain the validity of the 75-cent gas ordinance adopted in 1900 has failed so far as the United States Circuit Court is concerned. Judge Grosscup has rendered an opinion, at Chicago, restraining the city from enforcing a 75-cent rate. The city will appeal to a higher court.

Madison, Wis., City Hall

THE City Hall at Madison, Wis., is to be remodeled under the supervision of City Engineer Icke. The ground floor is to be converted into offices for the Mayor, City Clerk, Treasurer and Water Department, while the City Surveyor and Park Superintendent will be quartered on the second floor. The Council chamber will be enlarged.

Water Problem of Kansas City, Kan.

THE water situation at Kansas City, Kan., has been complicated by the entrance of a new competitor in the field, a thirty-year franchise having been applied for by L. M. Miller and K. L. Browne. They propose to expend \$1,000,000 on a new plant and accept terms which G. E. Taintor, President of the Metropolitan Water Company, declined. The matter of constructing municipal waterworks has been under advisement, as the franchise of the Metropolitan Company expires in December. The city will have the right to purchase the plant in twenty years, according to the ordinance, prepared by Councilman B. E. Rively.

Improvements at Birmingham, Ala.

THE annual report of City Engineer Julian Kendrick, of Birmingham, Ala., submitted to Mayor Ward, calls attention to the need of additional storm and sanitary sewers in all parts of the city. During the year, 3.07 miles of street paving was laid at a cost of \$194,855.12, giving the city a total of 7.90 miles of paved streets and representing an expenditure of \$536,871.25. The cost of all public work prior to 1905 was \$1,046,045.03; and during 1905, \$298,697.71. The completion of work now under contract will cost \$108,959.52, while the estimated cost of authorized work not yet contracted for is \$158,800.05.

Water Supply at Newburgh, N. Y.

NEWBURGH, N. Y., citizens are agitating an increased water supply and it is probable that within a short time the matter will be taken up by the authorities. Five years ago, J. J. R. Croes, Consulting Engineer, reported against the supply from Silver Stream on sanitary grounds, but no action has yet been taken, although the daily consumption has increased from 3,750,000 to about five million gallons. It is urged that sanitary considerations, not to mention industrial requirements and fire protection, call for an increased supply, and it is believed that this can be procured with a comparatively small expenditure.

A Tour of Inquiry

HATTIESBURG, MISS., will expend \$200,000 for civic improvements, \$150,000 of which is for street paving. A committee, consisting of Aldermen Hemphill and Watkins and City Engineer Huston, which is making a tour of investigation, was recently entertained at Birmingham, Ala., by Mayor Ward, City Engineer Kendrick, Street Commissioner McCartin and Secretary Pepperman. The committee examined the paving of several streets and secured considerable information as to material and prices.

The Finances of New Britain, Conn.

THE expenditures of the Street Department of New Britain, Conn., for the fiscal year ending February 1, 1906, are shown in a report of City Clerk Thompson. The total expenses were \$23,745.27, of which \$18,802.97 was for new work and improvements, and \$4,941.30 for general repairs. The balance was \$1,254.27, making, with sundry receipts, a total balance of \$2,948.34.

Wire Tapping at Des Moines

THE City Solicitor, Des Moines, Iowa, is searching the statute books and city ordinances for a law to prosecute offenders guilty of stealing electric current from the lines of the Des Moines Electric Light Company. The company claims that its wires have been tapped and power diverted to uses apart from those regularly paid for by consumers. The legislature may be asked to enact a law covering the matter, in case no regulation is found.

Cheaper Light for Louisville

THE fight for cheaper gas and better lights in Louisville, Ky., is having its effect. Franchises have been asked by two new companies, and the Louisville Lighting Company has proposed a reduction in the price of electricity, providing the General Council permits the company to continue its monopoly. G. Wallace Embry, of the Board of Aldermen, asks a rate reduction of forty per cent., which, it is understood, the Company is willing to grant. Many members of the Board insist, however, that an opposition company will force a further reduction in rates.

Los Angeles, Cal., Improvement.

IN the plans for the beautification of Los Angeles, Cal., as proposed by the Municipal Art Commission, attention is given to the treatment of vacant lots, which, as in most cities, are unsightly and frequently form breeding-places for disease. It is urged that in a climate such as favors the city, every vacant lot could be made a perpetual flower garden at a trifling outlay. A contrast is drawn by the Commission between the bridges of the city and the monumental structures which assist in beautifying other cities. The construction of an art gallery, a museum and a library is recommended.

The Minneapolis Building Commission

THE first year's report of the Municipal Building Commission, Minneapolis, created to take charge of the Court-house and City Hall, has been prepared by Hugh R. Scott, County Auditor and Secretary of the Commission. The expenses of the Commission for 1904 were \$60,373.30, and for 1905, \$59,397.50. During 1905, rooms were opened for a Municipal Court and for a Jail on the upper floors of the building, necessitating the employment of additional workmen, yet a net saving of nearly \$1,000 is shown over the expenses of the preceding year.

May Lay Patented Pavement

THE City of Toledo, Ohio, may let a contract for a patented pavement controlled exclusively by one corporation, according to a decision by Judge Barber, in the Common Pleas Court. The case was brought by William L. Holbrook, a taxpayer, against Henry P. Streicher, representing the Waren Brothers Company, and the Board of Public Service, to prevent the paving of Spielbusch avenue with bitulithic. The decision is important, as similar suits are pending.

MUNICIPAL JOURNAL AND ENGINEER

Published every Wednesday by
THE MUNICIPAL PUBLISHING COMPANY
Flatiron Building, Madison Square,
NEW YORK CITY

Telephone, 6723 Gramercy, New York.

Entered as second-class matter, January 3, 1906, at the Post Office at New York, N. Y., under the Act of Congress of March 3, 1879.

TERMS OF SUBSCRIPTION, PAYABLE IN ADVANCE

United States and possessions, Canada, Mexico and Cuba, \$3.00 per year
All other countries, 4.00
Make all checks payable to The Municipal Publishing Company.

Our readers are invited to contribute to the MUNICIPAL JOURNAL AND ENGINEER, either in the form of special articles or of letters discussing matters of current interest.

It is also desired that the facilities furnished by the reference library in this office should be widely known and freely used by those interested in municipal affairs. Visitors will be welcomed and provided with conveniences for search, and inquiries by mail will be promptly dealt with.

NEW YORK, FEBRUARY 28, 1906

A Sewage Question Settled

We referred, on page 55 of THE MUNICIPAL JOURNAL AND ENGINEER of January 10, to the then pending suit before the United States Supreme Court, touching the alleged contamination of the Mississippi river by the diversion into it of Chicago's sewage, formerly allowed to flow into Lake Michigan. Nominally, the case was that of one State against another—Missouri *versus* Illinois—but the real suitors were the cities of St. Louis and Chicago, as plaintiff and defendant respectively. Judgment has now been given, by a unanimous court, in favor of Chicago's contention that, so far from the drainage canal having been the cause of pollution, it has really contributed to the purification of the great river.

The case possesses an interest for American city governments and their advisers quite apart from the local interests involved, vast as these are. The array of skilled witnesses on each side, for whose payment unstinted provision appears to have been made, has rendered possible the institution of researches, on a scale not previously attempted, for testing the effect of sewage discharge in a stretch of river 357 miles long, with the result that the much dreaded germs of Chicago's sewage were proved incapable of surviving the journey. It may or may not be true that 1,500 tons of noxious matters are daily sent into the upper reaches of the drainage canal, but it seems proven by exhaustive inquiry that nothing in the shape of contamination, corresponding to that amount, finds its way into the sources of St. Louis' water supply. The magnitude of the country covered is, in fact, the chief reason for doubt as to the practical value of this particular case in the general problem, for with shorter distances a different result might have been yielded by the tests on which reliance was placed. Similarly, few if any other cities are able to rely upon the aid of a diluting flow of 5,000 cubic feet per second from a lake, as is the case with Chicago.

That city is, at any rate, to be congratulated. Not only is its bold expenditure of \$40,000,000 on the drainage canal amply justified by the event, but the present decision opens the way to the prosecution of a scheme for opening up a deep waterway to the Gulf, hitherto held up in Congress during the years of litigation since the completion of the canal in 1899. The expense of the suit, about \$100,000, will fall mainly on the Drainage Board, but its members, and the public for which they act, will probably agree in the opinion that seldom has so large a sum been better spent.

Water Rates in Connecticut

A RECENT issue of the New Britain *Herald* furnishes some comparative data in regard to the water rates levied in Connecticut cities, with special reference to the work of a special committee in New Britain, from which we extract the following:

"The level rate for ordinary fixtures throughout the State is \$5.00 in all but three instances, Willimantic, Putnam and Bridgeport, where it is \$6.00. It is possible that on these figures the committee made their verdict, for New Britain grants this rate to a single family of nine persons, while other cities place the limit at five or six. But the fixture rate is only a part of the average water rate bill and it happens to be the only part where New Britain has as low a rate as other Connecticut cities. For closets and bathtubs, just as necessary as the sink and washbowls in the average household, New Britain rates were much higher than the average, and it is, or rather was, these figures which made the New Britain rate so high. The rates based on these three fixtures are as follows: New Britain, \$12; Waterbury, \$10; New Haven, \$11; Bridgeport (private company), \$15; Danbury, \$11; New London, \$9; Meriden, \$10; Middletown, \$10; Norwalk, \$9; Norwich, \$9; Putnam, \$16; South Norwalk, \$11; Willimantic, \$12. Thus, on level ratio, New Britain has the same rate as Willimantic, less than Bridgeport and Putnam and more than the nine other cities. To counterbalance this excess in rate, New Britain gives a cash discount of ten per cent., which reduces the New Britain rate, when it is taken advantage of, as it generally is, to \$10.80, which is still higher than the rate the majority of the cities mentioned charge."

The Electrolysis Danger

A REPORT by A. A. Knudson, a New York electrical expert, reassures the City of Detroit as to apprehended damage to water mains by electrolysis, due to electricity used on the street railway system. The system of protection in use is approved by Mr. Knudson. At points where the danger of electrolysis is most probable, portions of the mains are wound with copper wire and connected either with the street car rails or with overhead return wires, thus conveying to the power station the current which would otherwise find a more dangerous outlet. In the case of Detroit, the street railway company bears the expense, amounting at present to about \$60,000 a year.

A Strenuous Mayor

MAYOR J. N. ADAM of Buffalo, N. Y., whose portrait was published on page 296 of THE MUNICIPAL JOURNAL AND ENGINEER for December last, is devoting a large share of his time and energy to the work of his office. A shortage of \$9,000 in the police pension fund—one of his earliest discoveries—led to the resignation of Gen. W. S. Bull from the command of the force. He has no faith in the system of placing public departments in charge of commissions, preferring single heads and fixed responsibility. Judging from his action in adding to the salaries of certain officials at his own expense, he is also a believer in adequate remuneration for the work men are called upon to do. Thus, he supplements the \$720 official salary for his stenographer by bringing it up to \$1,000 and pays his secretary \$2,000 a year in addition to the \$3,000 allowed by the city.

The key-note to Mayor Adam's activity is found in his belief that, in carrying on the public work for which he has been chosen, he is simply called upon to transfer his experience from his own business to that of the city. It is a *business* of which he is placed in charge and he treats it as such. Remissness in tax and license collection he regards with the same disfavor as the dilatoriness of a customer to pay his bills. He is an advocate of municipal ownership, and it is perhaps on that account that he is so ardent a reformer in many lines in which default would spell ruin or disaster for any city-managed undertaking.

The Value of Street Paving

THE Altoona, Pa., *Gazette* of February 9, refers as follows to the advantages to be expected from a liberal policy in the matter of street paving:

"Street paving is to a city what a foundation is to a house. Nothing adds so much to the aspect of solidity and permanency of a municipality as does the street with a solid smooth and well kept surface. There is no record of a city or a town ever having made a mistake by giving its streets a permanent and practical surface and no farsighted owner of real estate has ever been known to regret a just and equitable expenditure for paving. It is a demonstrated fact that as soon as a city becomes sufficiently advanced to pave its streets, or any section of them, every foot of the abutting property advances in real value and the business activity is increased to a marked degree. The effect that street paving has had on cities all over the country, whether larger or smaller than Altoona, has demonstrated the truthfulness of this statement of the entire satisfaction of all observers. It is a matter of congratulation to every resident of the city that those in whose hands the destiny of the city lies at present have come together on the idea that paving is one of the two things, more water being the other, that the city needs to place it upon the plane of real metropolitanism, a condition which will impress strangers in our midst that Altoona is all that it claims to be, that it is a substantial city, with a future unequalled by any other in the State, not simply a great railroad centre, but a city also of beauty and permanency, of handsome homes and progressive people."

A Municipal Experiment

UNDER this heading, our Canadian contemporary, *The Municipal World*, states that the City Council of Calgary has undertaken the experiment of placing the municipal administration under a Commission appointed by the Council. The members this year are the Mayor, the City Engineer and the City Clerk. The new step is stated to be the result of dissatisfaction with the committee system, as there were not enough meetings of the committees and the management of the different departments tended to fall into the hands of the Chairmen of their respective committees.

Although differing from the Galveston, Tex., system of government by commission, in regard to the selection of members, the Calgary experiment is on much the same lines as what has been done in that southern city since the disastrous flood which overwhelmed it a few years ago.

An Anti-Dust Society

ACCORDING to a report from Consul-General Rublee, of Vienna, a society has been organized in the Austrian capital having for its object the abatement of the dust nuisance on streets and public highways. "It has," he states, "a large membership, including men of prominence in scientific, professional, and business circles, and it is hoped by thorough study and experiment to arrive at some practical means of accomplishing the object aimed at. The Society has completed its organization and will hold a series of public meetings in Vienna at which papers are to be read by University professors and other competent authorities possessing special knowledge on the dust question. These discussions will be followed by practical experiments in Vienna and other parts of Austria. The Vienna Engineering Department has placed all its resources at the disposal of the Society in order to facilitate practical tests, and similar offers have been made by other municipal and provincial bodies."

A Subway for Buffalo

THE Buffalo Subway Railroad Company, with a capital of \$1,000,000, has applied for a certificate of incorporation at Albany. The proposed line is described in the application as eight miles in length, partly open and partly underground, extending from the lands of the New York Central Railroad, near the Lake, to a point 2,000 feet east of the lands of the Terminal Railway in Chicktowaga, with a branch.

Buffalo railroad experts are endeavoring to figure out why a railroad looking for passenger traffic should locate its terminals so near important freight yards. Mr. Frank S. McGraw, a stockholder, who is interested in a proposed Buffalo Frontier Terminal Railway Company, is quoted by the *Express* as explaining that the promoters of the subway have great faith in the growth of the East and South Sides, as residential and business sections; it seems unlikely that the subway would be used for freight transportation, since the New York Central Railroad has freight transfer lines of its own.

City Brevities

TACOMA, WASH., is in a campaign against overhead telephone wires.

PHILADELPHIA, PA., will not in future accept streets less than forty feet in width.

DES MOINES, IOWA, expects to pass the 100,000 population mark before next census.

MOBILE, ALA., has granted, over Mayor Lyon's veto, a franchise to a street railway company.

McKEESPORT, PA., is congratulating itself upon waterworks receipts amounting to \$91,000 in 1905.

HOBOKEN, N. J., according to Chief Conway's twelfth annual report, needs increased fire-fighting appliances.

CHATTANOOGA, TENN., has crossed the 74,000 population mark—an increase of 8,500 being shown in the past year.

CEDAR RAPIDS, IOWA, celebrates her semi-centennial this year and has a million dollars of improvements in contemplation.

CAMDEN, N. J., has a commission at work on charter revision; the Mayor is given large powers under proposals so far published.

HAVERHILL, MASS., finds itself debarred, by an opinion of City Solicitor Nicholls, from maintaining a hospital for paying patients.

ALEXANDRIA, IND., has on hand a suit against the Indiana Union Traction Company for damage to water mains by electrolysis.

WATERVLIET, N. Y., proposes to acquire the local waterworks plant and to make improvements at an aggregate cost of \$250,000.

JACKSONVILLE, FLA., has before it an offer by the Sanitary Reduction and Construction Co., of Philadelphia, to install a garbage plant.

MEMPHIS, TENN., is to have a \$1,000,000 Courthouse for Shelby County, measuring 220 feet by 240 feet and three stories high, with a basement.

BUFFALO, N. Y., has under consideration a draft bill providing for the construction of a municipal lighting plant by a commission of three members.

ATLANTIC CITY, N. J., has decided to pave Atlantic avenue with bitulithic, the decision of the City Council being received with applause from those present.

WORCESTER, MASS., will have to institute reforms in the dairies supplying the city with milk; some of them are reported as being in a "positively filthy condition."

AUGUSTA, GA., is to entertain the Mayors of that State, June 13-15, when three hundred visitors are expected to attend the Convention of the League of Georgia Municipalities.

SAN FRANCISCO, CAL., is negotiating for burying all wires underground; City Attorney William G. Burke states that the city has power to compel this, and is preparing an ordinance.

PITTSBURG, PA., steps from the eleventh into the sixth place among the cities of the United States, with a population of 525,000, as the result of an extension plan agreed to by the Legislature.

HOUSTON, TEX., is starting a vigorous anti-mosquito campaign; regulations drawn up by Health Officer Brumby are to be strictly enforced—cisterns to be screened and oil to be used on pools.

PHILADELPHIA, PA., is discussing an ordinance granting a franchise to a competing Electric Company, the city to pay a maximum of \$85 per arc light and to receive 5 per cent. of the Company's gross earnings.

MEMPHIS, TENN., has passed, in the upper body of its council, a resolution recommending the removal of all water meters placed upon private services, except where consumers request that they shall be retained.

PEKIN, ILL., has a proposition from a Milwaukee firm under which the latter would install a \$100,000 waterworks system, bond it and give the city the right to purchase as soon as an income of \$10,000 a year has been reached, this sum to include \$6,500 now paid for hydrant rental.

LOS ANGELES, CAL., wants the U. S. Census Bureau to "sit up and take notice" instead of basing mortality statistics upon city populations much lower than the present reality. The city claims a population of 140,000 to 150,000, as compared with 116,000 adopted by the Bureau in estimating deaths per thousand.

SOUTH BEND, IND., may shortly have eighty-five cent gas, an application having been made for a thirty-year lighting franchise by a new company. Dudley M. Shively, representing the company, says the success of the undertaking is practically assured. The manufacture of gas from petroleum will be tried at the new plant.

WAYCROSS, GA., is looking for a considerable expansion in population owing to the contemplated expenditure of at least a million dollars for new shops by the Plant Railroad System. The city has recently installed a new waterworks pumping plant, with sufficient space in the building to accommodate an electric light plant at a future date.

KANSAS CITY, MO., is to have a new Union station, to cost approximately, \$4,000,000. Options have been secured on forty-four acres of land between Grand avenue and Broadway, south of Twenty-first street and Milwaukee avenue, and the six roads interested are now awaiting the passage of ordinances for the vacation of streets, and the construction of viaducts. It is expected work will begin in July.

OKLAHOMA CITY, OKLA., is discussing a project under which \$250,000 would be spent on sanitary and storm-water sewers, with a view to the city's development beyond its present population of 35,000. A statement recently issued shows twenty miles of asphalt pavement laid, with several miles under construction; ninety-five miles of brick and cement sidewalk; a municipal waterworks plant valued at \$500,000, and sixteen miles of electric street railways in operation. Its bonded indebtedness is \$248,000.

THE IOWA GOOD ROADS ASSOCIATION, at its third annual convention, in Des Moines, went on record in favor of wide-tired wagons, which Senator Byron W. Newberry is advocating before the State Legislature.

THE PROBLEM OF CHEAPER LIGHT has come up at Cohoes, N. Y., where committees have brought the matter to the attention of the local gas company. Some improvement in the situation may result from a meeting of the company's directors next month.

THE DEFACEMENT DUE TO STREET SIGNS for advertising purposes is being earnestly considered by Mayor Harry Phillips of Davenport, Iowa. A local firm proposes to place such signs at all street intersections and it is to this that Mayor Phillips objects.

STATE AID FOR ROAD CONSTRUCTION is being freely utilized in Pennsylvania, a total of 585 applications having been filed, covering 1,100 miles of road. The proportion contributed by the State to the cost of such work was increased by an act of the last Legislature.

MAYOR H. H. DEVERAUX of Springfield, Ill., advocated the municipal ownership of public utilities by that city in an address to the Springfield Business Men's Association, February 8. "A greater and more beautiful Springfield" would, in his opinion, be the result of action on that line.

THE SMOKE NUISANCE AT PHILADELPHIA has been taken up by women, who criticize the Pennsylvania Railroad because of its failure to abate the nuisance arising from the use of soft coal in locomotives. The Committee on Steam Railroads of the City Council is conducting hearings on the subject.

THE PURCHASE OF THE PLANT of the Natural Gas and Fuel Company is under consideration by the Buffalo City Lamp Committee. This action has been prompted by disputes, some of them now in litigation, between the city and the company in regard to extensions and the right of the city to regulate rates.

GARBAGE DISPOSAL AT AUGUSTA, GA., is the subject of a recent report by Dr. J. B. Morgan, President of the Board of Health, who urges the adoption of a crematory, describing these appliances as "a protection and a convenience to many progressive cities" and "the recognized safe and sanitary solution of the problem."

THE MUNICIPAL GAS AND WATER WORKS of Leipsic, Germany, are estimated to yield a profit of \$234,000 in 1906, with an output of gas of rather more than 1,000 million cubic feet. The waterworks have an annual capacity of 3,600 million gallons, the average payment by consumers being at the rate of 17½ cents per thousand gallons.

A BILL AIMED AT GRAFT, now before the Massachusetts State Legislature, proposes to make it illegal for any city or town in the Commonwealth to enter into contracts for \$500 or over without first advertising for bids. A further provision is intended to exclude the shutting out of competition by the use of materials exclusively controlled by individuals or firms.

Trade Notes

THE ARTESIAN WELL AND SUPPLY COMPANY, Dyer and Friendship streets, Providence, R. I., is doing a large amount of work in the line of permanent wells and in test borings for engineering work. Among work recently completed may be mentioned a well for the Water Company of Cranberry, N. J., and the first of several being put in for the Citizens' Water Supply Company at Douglaston, L. I., the latter yielding 500 gallons per minute. Several wells for the city of Newburyport, Mass., with others for the Boston Elevated Railway Company, and many private firms, go to make up a list showing the importance which this branch of work has assumed.

VOLTAX, a new high-potential insulating compound, handled by the Electric Cable Company, 42 Broadway, New York City, has given remarkable results after severe tests. Among other railway companies which have adopted this material, the Interborough Rapid Transit Company recently ordered fifteen miles of Voltax-insulated cable, and this was followed, within a week, by an identical order from the New York and Long Island Railroad Company. It is claimed for Voltax that it retains its elasticity and insulating properties indefinitely, and is not affected by atmospheric conditions, acids or alkalies. Recent tests by the Electrical Testing Laboratories of New York show that it will not drip under 200° F.

GAS METERS IN CHICAGO sustain the evil reputation of these instruments, a recent investigation having shown that of the 40,000 in use 70 per cent. favor the seller, 5 per cent. slightly favor the consumer and 25 per cent. are approximately correct. The error in favor of the seller is said to approximate 7 per cent. of the entire gas consumption of the city.

AN ATTEMPT TO CHANGE the recent decision of the Boston, Mass., City Council not to embark upon the proposed municipalization of the city's lighting system, at an estimated initial cost of \$62,000,000, was defeated at a sensational meeting of the Council on February 8. With fifty votes required, only forty-four were forthcoming, several members failing to vote.

THE LAKE FRONT OF CLEVELAND, according to a decision given in the United States Circuit Court of Appeals, is not the property of the city, but of the railroad companies which have spent millions in improving it. An appeal in this important issue is to be taken to the United States Supreme Court. The history of the case extends as far back as 1849, when the city granted a railroad company certain rights of occupancy.

THE HEALTH DEPARTMENT OF RICHMOND VA., has established a bacteriological laboratory, with the object of carrying on experiments with the bacilli of diphtheria, tuberculosis and typhoid. It is now possible for physicians to diagnose cases much earlier than was formerly possible. The laboratory, which was established through the efforts of Dr. E. G. Williams, a member of the City Council, is in charge of Dr. Ernest C. Levy.

THE WEEK'S CONTRACT NEWS

RELATING TO MUNICIPAL AND PUBLIC WORK—THE CONSTRUCTION FIELD—PROPOSALS AND CONTRACTS—
SEWERAGE AND WATER SUPPLY, STREET IMPROVEMENT AND LIGHTING—FIRE EQUIPMENT
—BUILDINGS

STREET IMPROVEMENTS

Mobile, Ala.—Bonds may shortly be issued for paving a number of streets. Approximately 37,000 square yards of asphalt will be laid. Wood blocks will also be used.

Pasadena, Cal.—A resolution to improve Mountain street is before the City Council.

Ventura, Cal.—A bond issue for improving County roads is being considered.

Bridgeport, Conn.—The proposed widening of East Washington avenue and the improvement of Congress street are being considered.

Augusta, Ga.—Plans and specifications have been prepared for paving portions of Fifth, Seventh and Ninth streets; also Bay and Reynolds streets. Brick may be used.

Chicago, Ill.—It is estimated that \$225,450 will be expended by the city for brick paving during the year.—John Erickson, City Engineer.

Auburn, Ind.—Preliminary plans have been prepared for paving Eighth and Ninth streets with asphalt. Proposals will shortly be asked.—F. R. McDowell, City Engineer.

Fort Wayne, Ind.—Proposals will be received, March 1, for sheet asphalt and brick paving.—F. A. Randall, City Engineer.

Huntington, Ind.—It is proposed to construct 40,000 square yards of paving during the year.—H. H. Wagoner, City Engineer.

Rockville, Ind.—Proposals are asked by the Park County Commissioners, until March 5, for the improvement of the Pickett and Woodard gravel road; also for constructing gravel roads in Liberty Township.

Valparaiso, Ind.—The Porter County Commissioners invite bids, until March 5, for the construction of twenty-five miles of gravel roads.

Versailles, Ind.—The Ripley County Commissioners will receive bids, until March 6, for constructing approximately eight miles of macadam road in Shelby Township.—Nicholas Volz, County Auditor.

St. Paul, Minn.—Proposals for paving John street will shortly be asked.

Pass Christian, Miss.—Bonds for \$35,000 for improving the streets may shortly be issued.

Jefferson City, Mo.—The paving of Main street, Lafayette to Madison streets, will shortly be undertaken. It is also proposed to improve Washington street.

Joplin, Mo.—A City Committee is considering the proposed paving of Main street.

St. Louis, Mo.—The matter of improving thirty-four streets is under consideration.

Fremont, Neb.—The Board of Public works will shortly ask bids for paving and curb construction in district No. 9; estimated

cost, \$31,323.—George F. Wolz, Mayor; S. F. Stiles, City Clerk.

New York, N. Y.—Proposals are invited, until March 7, for paving with asphalt blocks the Kingsbridge avenue roadway, Terrace View avenue to Van Corlear Place; also portions of West 139th, West 151st, West 152nd, and West 153rd streets, Borough of Manhattan.—John F. Ahearn, Borough President.

New York, N. Y.—Bids will be received, until March 7, for paving with asphalt blocks portions of West 154th street, and West 171st, 184th, and 102nd streets, Borough of Manhattan.—John F. Ahearn, Borough President.

Rochester, N. Y.—Ordinances for paving Alphonse, Boardman, Flower, Durgin, Berlin and Boston streets are being considered.

Rochester, N. Y.—It is reported that ordinances have been approved for paving Anderson avenue, Cleveland Place, Sullivan street and Park avenue.

Utica, N. Y.—Resolutions to pave thirty-five streets are before the City Council. Preliminary plans and estimates are being prepared.

Greensboro, N. C.—The Guilford County Commissioners will shortly sell \$60,000 in bonds for road improvements.

Wilmington, N. C.—A City Committee is considering the question of issuing bonds for street improvements.

Fargo, N. D.—Plans and specifications have been prepared for paving several streets with creosote blocks on a concrete foundation. The estimated cost is \$188,000.

Canton, Ohio.—The Board of Public Service asks bids, until March 12, for paving Walnut street. About 13,000 square yards of pavement must be laid.

Marion, Ohio.—New pavements will probably be laid on Franklin and Columbia streets.

Mount Gilead, Ohio.—The question of paving North Main street is before the City Council. Preliminary plans have been prepared.

Norwalk, Ohio.—A resolution has been approved for paving Benedict avenue with brick.

Portsmouth, Ohio.—It is reported that the City Council has ordered the paving of six streets.—Benjamin Bratt, City Engineer.

Pendleton, Oregon.—Plans for paving streets in the business district are before the City Council.

Knoxville, Tenn.—The matter of paving Broadway from the Southern Railway to the corporation line is being considered.

Burlington, Vt.—Russell street will be graded and paved.

Suffolk, Va.—The improvement of several streets has been decided upon. Some paving will be undertaken. The estimated cost is \$93,000.—Lee Schafer, City Engineer.

Seattle, Wash.—Proposals will be received, March 3, for paving Tenth avenue North with asphalt at an estimated cost of \$101,000; also for grading East Spring street; estimated cost, \$14,500.

Seattle, Wash.—Ordinances for grading a number of streets have passed the City Council. A total expenditure of \$502,540 is contemplated.—R. H. Thomson, City Engineer.

Seattle, Wash.—Concrete sidewalks will be constructed along Thirty-second avenue and South street; estimated cost, \$6,600.

SEWERS

San Francisco, Cal.—Plans have been prepared for constructing the Upper Sunset trunk sewer; estimated cost, \$35,000.

Gainesville, Fla.—Proposals are invited, March 7, for building sanitary sewers.—W. W. Hampton, Secretary, Board of Public Works.

Lewiston, Idaho.—A report is before the City Council for building a sewerage system; estimated cost, \$99,700.—Miller and Graves, Engineers.

Champaign, Ill.—The proposed construction of a storm sewer is under consideration. The cost will approximate \$250,000.

Libertyville, Ill.—Proposals will be opened, March 9, for an outlet sewer.

Wabash, Ind.—Plans are being prepared for laying approximately two miles of pipe sewers.—James W. Murphy, Mayor; John Hilty, City Engineer.

Carroll, Iowa.—Preliminary plans have been prepared for building sewers.

Emmetsburg, Iowa.—Proposals are wanted, March 5, for constructing sewers.—P. H. Hand, City Clerk.

Sac City, Iowa.—Proposals are asked, March 5, for the construction of tile drains.—J. J. Harter, Auditor, Sac County.

New Orleans, La.—It is reported that the Legislature will be asked to sanction the issue of \$8,000,000 in bonds to complete the city's sewerage systems.

Boston, Mass.—It is reported that \$600,000 will be expended for building additional sewers.

St. Paul, Minn.—The Board of Public Works is considering preliminary plans for constructing sewers in the Warrendale district. The cost will be \$53,000.

St. Paul, Minn.—A new sewer will shortly be constructed in Van Buren street.

St. Charles, Mo.—The matter of issuing \$100,000 in bonds for constructing sewers is being considered.

South Omaha, Neb.—Bonds for \$250,000 in bonds for constructing sewers may shortly be issued.

Camden, N. J.—The City Council has adopted an ordinance for the construction of a sewer along Mt. Ephraim avenue, Lemon and Louis streets, to Newton Creek.—Harry C. Kramer, City Clerk.

Merchantville, N. J.—A \$60,000 bond issue for building a sewerage system is being considered. An election may be held to decide the question.—A. W. MacCallum, Chairman, Sewer Committee, Town Council.

Binghamton, N. Y.—Plans for the Fourth Ward trunk sewer, to cost \$85,000, have been completed.—S. M. Baird, City Engineer.

Lestershire, N. Y.—The City Council is considering plans for constructing a septic sewage plant in the Fourth Ward.

New York, N. Y.—Proposals are asked, until March 1, for rebuilding the sewer in East 169th street, Webster to Third avenue.

Norwood, Ohio.—Proposals are asked, March 10, for building a sanitary sewer.—J. A. Stewart, Engineer, Cincinnati, Ohio.

Salem, Ohio.—Proposals are asked, until March 6, for constructing a sewer in Jennings avenue.

Zanesville, Ohio.—The building of sewers for Brighton, Ohio, is under consideration.

Charleston, S. C.—Preliminary plans have been prepared for extending sewers. The estimated cost is \$40,000.

Norfolk, Va.—An election will be held, April 16, to determine the question of issuing \$180,000 in bonds for sewer construction.

Seattle, Wash.—It is proposed to construct additional sewers in several districts; estimated cost, \$110,330.—R. H. Thomson, City Engineer.

Guyandotte, West Va.—An election will be held, April 14, to decide the question of issuing \$50,000 in bonds for building sewers.

Green Bay, Wis.—Proposals are asked, until March 25, for constructing 4,400 feet of brick sewers; also for pipe sewers.—W. W. Read, City Engineer.

Madison, Wis.—It is reported that bids are asked, until April 1, for constructing six miles of sewers.—John Icke, City Engineer.

Hamilton, Ont., Canada.—The matter of constructing the proposed annex sewer system is still under consideration.—Mayor Biggar.

London, Ont., Canada.—The Board of Public Works recommends that bonds be issued to extend the sewerage system.

Winnipeg, Man., Canada.—New sewers will be constructed at a cost of \$26,000.—H. N. Ruttan, City Engineer.

WATER SUPPLY

Upland, Cal.—Preliminary plans have been approved for building a reservoir; also for improving the waterworks.

Granite City, Ill.—An ordinance has been approved for the erection of a pumping station; estimated cost, \$8,000.

Eunice, La.—Plans are being considered for building water-works.

Opelousas, La.—The Board of Aldermen has appropriated \$3,500 for improving the water-works.

Baltimore, Md.—A bill is before the Legislature to authorize the city to borrow \$5,000,000 for constructing a reservoir and improving the waterworks.

Hagerstown, Md.—The proposed issue of \$500,000 in bonds for constructing water-works is being considered.

Gloucester, Mass.—The matter of issuing \$30,000 bonds for improving the water service is being considered.—Mayor MacDonald.

Quincy, Mass.—Extensions of the water system are being considered. An appropriation of \$25,000 is proposed.—Hamilton Flood, City Engineer.

Battle Creek, Mich.—The people will vote at the Spring election on a proposed bond issue for an improved water supply.

Hastings, Mich.—It is proposed to issue \$50,000 in bonds for constructing water-works. An election may be held to authorize the expenditure.

Spring Lake, Mich.—Preliminary plans will be prepared for local waterworks. A proposition to issue \$15,000 in bonds will come up at the spring election.—David M. Cline, Mayor.

Chillicothe, Mo.—A \$100,000 bond issue may be authorized for constructing water-works.

Beatrice, Neb.—It is reported that improvements will shortly be made to the waterworks.

Haddonfield, N. J.—An election will be held to authorize a \$94,000 bond issue for improving the waterworks.

Trenton, N. J.—The Commission on water supply will spend \$100,000 to increase the capacity of the Delaware river pumping plant.—C. C. Haven, City Engineer.

Brooklyn N. Y.—Proposals will be asked in March for installing a complete water and steam piping system at the Brooklyn Navy Yard.—Mordecai T. Endicott, Chief, Bureau of Yards and Docks, Navy Department, Washington, D. C.

Buffalo, N. Y.—The City Council will ask legislative authority to issue \$2,500,000 in bonds for constructing improved water-works.

Ogdensburg, N. Y.—The proposed filter plant will cost approximately \$15,000.

Wilmington, N. C.—Bonds for improved water supply may be issued during the year.

Fargo, N. D.—Proposals will be received, March 10, for constructing a 6-inch water main on Thirty-second street.—H. J. Gibson, City auditor.

Youngstown, Ohio.—Proposals are asked, until March 2, for 400 tons of cast iron pipe; also for water meters.—G. D. Prosser, Clerk, Board of Public Service.

Zanesville, Ohio.—It is proposed to erect a filtration plant. Preliminary plans will be prepared.

Estacada, Oregon.—It is proposed to issue \$6,000 in bonds for building waterworks.

Munhall, Pa.—The matter of building waterworks is being considered.

Dallas, Texas.—It is reported that an election will be held in April to determine the question of issuing bonds for improved waterworks.

Sherman, Texas.—The sale of \$30,000 in bonds for improving the waterworks is being considered.

Oderville, Utah.—The Oderville Water Company has preliminary plans for building waterworks.

Portsmouth, Va.—A bill is before the Legislature authorizing a bond issue for improved waterworks.

Seattle, Wash.—The contract for constructing the standpipe in Volunteer Park, Seattle, has been awarded to Moran Brothers Company, for \$24,960.

Seattle, Wash.—The extension of water mains will cost approximately \$31,580.—R. H. Thomson, City Engineer.

Parkersburg, W. Va.—Work begins, June 1, on the waterworks; estimated cost, \$195,000.—G. L. McKibben, Van Wert, Ohio, Consulting Engineer.

Manitowoc, Wis.—A water system will be constructed during the year.—Mayor Stolze.

Waukesha, Wis.—An ordinance before the City Council authorizes a \$70,000 bond issue for building waterworks.

Fort William, Ont., Canada.—It is proposed to expend \$20,000 in alterations and improvements at the waterworks.

London, Ont., Canada.—Preliminary plans for extending water mains in the Northeast City District are under consideration.

PUBLIC LIGHTING

Selma, Ala.—The proposed municipal ownership of the electric-light plant is being considered.

Stockton, Cal.—Plans are being discussed for issuing \$700,000 in bonds for municipal improvements, including an electric-light plant.—R. C. Tumelty, City Engineer.

Fortville, Ind.—It is reported that an electric-light plant will be erected by the Fortville Electric Company.

Redkey, Ind.—The City Finance Committee is considering preliminary plans for erecting a municipal electric-light plant.—Earl Coble, Chairman, Committee.

Albia, Iowa.—Bonds will shortly be issued for constructing an electric-light plant.

Carroll, Iowa.—An election will be held in March to determine the question of installing an electric-light plant. Three companies have asked for a franchise.

Opelousas, La.—The electric-light plant may be improved.

Detroit, Mich.—The Public Lighting Commission recommends a bond issue for improving the electric-light plant.

Hastings, Minn.—A proposed bond issue for erecting an electric-light plant is being considered.

Okolona, Miss.—Improvements will shortly be made at the local electric-light plant. A Lycoming engine, a new switch-board and other equipment will be installed.—A. Ortger, Superintendent.

Clinton, Mo.—It is reported that an electric-power plant will be erected.

Holden, Mo.—It is proposed to make extensive improvements at the municipal electric-light plant.—S. P. Piper, Superintendent.

Pierce City, Mo.—A new engine, also a dynamo, will be installed at the municipal electric-light plant during the spring.

Gibbon, Neb.—A franchise for building an electric-light plant has been granted J. H. Davis and Son.

Fort Wood, N. Y.—Proposals are asked, April 16, for the installation of an electric-light system.—G. C. Burnell, Quartermaster.

Ironton, Ohio.—The city contemplates the construction of an electric-light plant, to be operated in connection with the waterworks, which will be improved.—D. H. Clark, Superintendent, Waterworks.

Youngstown, Ohio.—A city committee is considering the feasibility of a proposed municipal electric-light plant.—R. D. Campbell, Chairman, Committee.

Newcastle, Pa.—It is reported that the city will shortly place all municipal wires underground.

Aberdeen, S. D.—An election will shortly be held to authorize a bond issue for an electric-light plant.

Coalville, Utah.—Bonds may shortly be issued for improvements at the municipal electric-light plant.

Burlington, Vt.—The Board of Light Commissioners will shortly ask bids for improvements at the electric-light plant. The cost will approximate \$25,000.—Frank O. Sinclair, City Engineer.

Prosser, Wash.—The City Council has awarded a contract to the Prosser Falls

Power Company for lighting the business section for three years.

Onalaska, Wis.—A franchise has been granted the Wisconsin Light and Power Company, La Crosse, Wis., to install an electric-light service.

Sturgeon Bay, Wis.—Plans have been prepared for installing a new boiler at the local electric-light plant.—J. E. Johnson, Superintendent.

Gravenhurst, Ont., Canada.—The matter of improvements at the electric-light and power plant is under consideration. It is proposed to build waterworks, to be operated in connection with the lighting plant.

Winnipeg, Man., Canada.—The contract for erecting the municipal gas plant has been awarded to the Crossley Corporation, Manchester, England; cost, \$114,900.

FIRE DEPARTMENT SUPPLIES

Union Springs, Ala.—The Fire Department will be reorganized. It is proposed to purchase new apparatus.

Los Angeles, Cal.—The Fire Commissioners have recommended a \$250,000 bond issue for improving the Fire Department.

Pomona, Cal.—Bonds for \$25,000 for erecting a fire station and the purchase of apparatus may shortly be issued.

Vallejo, Cal.—An ordinance is being considered for the construction of a fire station.

Willimantic, Conn.—The purchase of two hose wagons, a chemical wagon and other fire apparatus has been decided upon.

Lawrence, Mass.—An ordinance will be presented to the City Council for a \$40,000 bond issue for building a central fire station.—Chief Rutter, Fire Department.

Westfield, Mass.—The erection of an additional engine house is recommended by Fire Chief Byers. New fire apparatus may be purchased.

St. Paul, Minn.—New bids will shortly be asked for a boiler for a No. 2 fire engine.

Joplin, Mo.—Proposals are asked, until March 7, for constructing a fire station at the jail reservation.—E. C. Squire, City Clerk.

St. Louis, Mo.—An appropriation of \$25,000 is available for a site, and the construction of an engine house; also \$20,000

for erecting a fire station in the district bounded by Greer, Cottage, Lambdin and Belle Glade avenues.

Jasper, N. Y.—The Town will purchase a fire engine, a hose cart and other apparatus.

Steubenville, Ohio.—The Board of Public Works is considering the proposed erection of a new hose house.—John Fishing, Clerk, Board of Fire Commissioners.

Island City, Oregon.—The purchase of apparatus for the Fire Department has been decided upon.

Seattle, Wash.—A new fire station will be erected in the Eighth Ward.

Milwaukee, Wis.—A bond issue for \$100,000 for improving the Fire Department is under consideration.

Wauwatosa, Wis.—An improved system of fire protection will be installed at the Asylum for the Insane.

PUBLIC BUILDINGS

Sacramento, Cal.—Proposals for altering and improving the California State Capitol building, Sacramento, will be received, until March 16, by the Capitol Commissioners.—George C. Pardee, President, Board of Commissioners; Sutton & Weeks, Architects, San Francisco.

Sacramento, Cal.—An architectural competition for plans and estimates for the proposed new High School will be opened, March 15, by the Board of Education. The building will cost approximately \$150,000.

Chicago, Ill.—The cost of the new Lloyd school building at Dickens and North Fortyninth Avenues is estimated at \$125,000. Contracts will shortly be awarded.

LaSalle, Ill.—Proposals will be received, March 6, for constructing a new \$35,000 City Hall.—W. A. Panneck, Mayor; Victor A. Matteson, Architect.

Macomb, Ill.—A new Post Office will be erected, an appropriation having been made by Congress.—James Knox Taylor, Supervising Architect, Treasury Department, Washington, D. C.

Bloomington, Ind.—A new Courthouse is proposed for Monroe County. A \$100,000 building may be erected.

Evansville, Ind.—Proposals will shortly be asked for constructing a new city Pest House.

PATENT IMPROVED SPRINKLING WAGONS

FOR ALL PURPOSES



Possessing the most modern improvements for the Control and Distribution of Water. Most economical to operate. Absolutely free from complications.

Send for Catalog, it explains why they are superior

E. D. ETNYRE & CO.,

OREGON, ILLINOIS

Goshen, Ind.—Proposals are asked, March 15, for the purchase of \$10,000 Elkhart County Courthouse bonds.—O. H. Sweitzer, County Auditor.

Independence, Kan.—An ordinance has been approved for a bond issue for school construction.

Louisville, Ky.—The cost of rebuilding the Courthouse, which was damaged by fire, will approximate \$250,000.

Duluth, Minn.—A site has been selected at Fourth avenue and Second street for the new St. Louis County Courthouse.—E. K. Coe, City Engineer.

Duluth, Minn.—Proposals are asked, until March 2, for a new school building in West Duluth.—Charles A. Bronson, Clerk, Board of Education.

Vicksburg, Miss.—It is proposed to build a new \$35,000 Jail. Bonds will be issued.—Stanton & Son, Architects.

Yazoo City, Miss.—Ordinances are before the City Council for issuing \$25,000 in bonds for a new City Hall.

Milan, Mo.—An election will be held, April 24, to determine the question of issuing \$75,000 in bonds for a new Courthouse.

St. Louis, Mo.—Plans have been prepared for erecting a Police Station on South Twelfth street; estimated cost, \$50,000.

Dansville, N. Y.—Revised plans are before the Livingston County Supervisors for rebuilding the County jail at Geneseo; estimated cost, \$10,000.

Barberton, Ohio.—Bonds for \$15,000 for erecting a new High School will be sold, March 19. Preliminary plans are being prepared.—U. G. High, Clerk, Board of Education.

Columbus, Ohio.—Plans and specifications for the new Lawrence County Courthouse are being prepared by Richards, McCarty and Bulford, Architects; estimated cost, \$135,000.

Lawton, Okla.—The people will vote, April 11, on the proposed \$75,000 bond issue for schools.

York, Pa.—The County Commissioners may shortly ask plans for improving the County jail.

Belle Fourche, S. D.—Bonds for \$40,000 for erecting a new Courthouse will shortly be issued.

Britton, S. D.—It is proposed to issue \$40,000 in bonds for building a new Courthouse.

Nashville, Tenn.—An election will be held, March 8, to decide upon the proposed \$160,000 bond issue for building a Court-

house and Jail.—F. P. McWhirter, Chairman, County Commissioners.

Austin, Texas.—Bonds for \$16,000 will be issued by the City of Hillsboro, Texas, for the construction of a new school building.

Corsicana, Texas.—An election will be held to determine the question of issuing \$50,000 City Hall bonds.

Eagle Pass, Texas.—The matter of issuing \$30,000 in bonds for school purposes is under consideration.

Greenville, Texas.—Bonds for \$17,000 for school purposes will shortly be issued.

Marion, Va.—It is proposed to issue \$25,000 in bonds for building school houses.

Baraboo, Wis.—The High School building, recently destroyed by fire, will be rebuilt. The cost is estimated at \$60,000.

Milwaukee, Wis.—At the spring election a proposed \$360,000 bond issue for school buildings will be decided.

MISCELLANEOUS

Red Bluff, Cal.—A proposition is being considered to bond Tehama County for \$250,000 to build a bridge over Sacramento river at Tehama; also another bridge in the northern end of the County.

Truckee, Cal.—Bids will be received, until April 4, at Nevada City, Cal., for constructing a trestle bridge over Trout creek, near Truckee.—F. S. Arbogast, County Clerk.

Tifton, Ga.—Plans for the new Sadie Hotel, to cost \$100,000, have been completed.

Hartford, Ill.—The County Board will shortly let the contract for the new bridge over Prairie creek on the Washington and Harrison township line.

Waukegan, Ill.—Proposals are invited, until March 2, for 6,000 feet of ditch construction at Perks, Ill.

Crawfordsville, Ind.—Plans are being prepared for building seven bridges in Montgomery County. Contracts will be awarded, April 1.

Newport, Ind.—Proposals are wanted, until March 10, for constructing the superstructure of a highway bridge in Vermilion County.—H. T. Payne, Auditor.

Ravia, Ind. Ter.—The city has granted a telephone franchise to R. E. Moore, Decatur, Texas.

Butler, Mo.—Surveys have been completed for constructing the proposed canal to drain the lowlands of Bates County. The cost is estimated at \$387,050.

Kansas City, Mo.—It is reported that a

Gallery of Art, to cost \$450,000, will be built in Swope Park.

Cincinnati, Ohio.—It is reported that contracts for building eighteen hospitals, for which bids have been received, will be held up pending a decision of the Ohio Courts on the Longworth Act regulating bond issues.—Samuel Hannaford & Son, Architects.

Dayton, Ohio.—An ordinance before the City Council provides for a \$125,000 bond issue for dredging and improving the Great Miami river.

Tillamook, Ore.—Proposals are invited, until March 7, for constructing a combination bridge over Nehalem river at Ludtke Point; also for building a bridge at Cloverdale, spanning the Big Neestueca river.—G. B. Lamb, County Clerk.

Philadelphia, Pa.—A dormitory and hall will be erected for Princeton University, Princeton, N. J.—Raleigh C. Gildersleeve, Architect, New York.

Pittsburg, Pa.—A 10-story addition to the Fort Pitt Hotel, Penn Avenue and Tenth street, will be erected; estimated cost, \$1,000,000.

Pierre, S. Dak.—Proposals are asked, until April 3, for building the east wing of the State Capitol at Pierre.—Bell & Detweiler, Architects, Minneapolis.

Tacoma, Wash.—Extensive improvements will shortly be undertaken at Point Defiance Park.

WANTED

Associate with moderate capital, not less than \$5,000, in well established special line of engineering and construction work. Field practically unlimited; large amount of work in hand; future business absolutely assured. Address "Engineer," care MUNICIPAL JOURNAL.

AGENTS WANTED

to solicit contracts for a street or road pavement possessing many advantages over present roads. New in this country, but successfully laid in Europe for the last thirty years. Address "Municipal," care of MUNICIPAL JOURNAL AND ENGINEER, New York.

For PAVING, for ROOFING, for RESERVOIRS and all other purposes where a high grade asphaltum is desirable, use "MALTHA BRAND" 99% Bitumen

There are many important reasons why.

Write us to-day so we can send you full particulars.

CALIFORNIA ASPHALTUM SALES AGENCY Chicago San Francisco New York City

For Machines to Drill, Blast and Test Holes and Water Wells, write "LOOMIS CO. TIFFIN, O."

Proposals

Waterworks Supplies.

Bids will be received by the Board of Water Commissioners, Atlanta, Ga., at 3 o'clock P. M., Wednesday, March 21, 1906, for fifty (50) 6-inch valves and fifty (50) fire hydrants. Specifications will be furnished by addressing Park Woodward, Gen. Manager, Atlanta Water-Works, Atlanta, Ga. The Board reserves the right to reject any or all bids.

PARK WOODWARD, Gen'l Mgr.

Sewer Construction.

Sealed proposals will be received at the office of the Board of Public Service, Norwood, Ohio, until twelve o'clock noon of March 19, 1906, for the construction of a sanitary sewer in the easement granted by the B. & O. S. W. Ry. Co. from Forest avenue, about 3,400 feet west. Plans, specifications and approximate quantities can be seen at the office of J. A. Stewart, City Engineer, 813 Traction Building, Cincinnati, Ohio.

GEO. H. STACEY, Clerk.
W. H. FERRY, President.

Waterworks and Sewers.

APALACHICOLA, FLA.
Sealed bids will be received at the Council Chamber, by the Board of Public Works, of Apalachicola, Fla., until 10 A. M., March 20, 1906, for furnishing the following materials: Two Boilers, 66 x 16. Two Pumps of one million gallons capacity each in 24 hours. Boiler Feed Pump and Heater. 60 Hydrants, 61 Gate Valves and Boxes. One Air Compressor.

Furnishing and erecting one 100,000-gallon Tank and Tower, 110 ft. to top of tank.

For constructing complete, Brick Power House, and Suction Basin. Steam piping and setting machinery. Laying about four miles of 6 to 10-inch C. I. water pipe furnished by the City.

Furnishing all materials and laying complete two and a half to three miles of 6 to 12-inch Sewers, with manholes, etc.

Specifications may be obtained from the Secretary of the Board of Public Works, or from the Engineer.

M. BRASH, Secy. Board Pub. Works.
ARTHUR PEW, Engineer.

Macadam Road.

PEEKSKILL, N. Y.
Sealed proposals for the construction of 2.18 miles of Telford and Macadam Road in the Town of Cortlandt, near Peekskill, N. Y., will be received until noon on the 15th day of March, 1906, at the Town Clerk's office of said Town, Municipal Building, Main street, Peekskill, N. Y.

Plans, drawings and specifications may be seen at the said Town Clerk's office until that time.

By order of the Town Board,
S. ALLEN MEAD, Town Clerk.

Reinforced Concrete Conduit.

OFFICE OF SUPERINTENDENT OF WATER-WORKS,
CITY HALL.

RICHMOND, VA., February 16th, 1906.
Sealed proposals for the construction of a steel reinforced concrete conduit, about one mile long and five (5) feet internal diameter and connections with same, will be received at this office until 5 P. M., March 14th, 1906, and then publicly opened.

Information on application. The right to reject any or all proposals is reserved by the Committee on Water.

CHARLES E. BOLLING, Superintendent.

Brick Paving.

CORNING, N. Y.
Sealed proposals will be received until Thursday noon, March 15, 1906, by the Board of Public Works of the City of Corning, N. Y., for laying about four thousand six hundred and twenty-five lineal feet (4,625) of brick pavement. Proposals must be accompanied by a certified check for \$250, payable to the City of Corning, N. Y. Plans and specifications can be seen at the office of R. H. Canfield, Supt. of Public Works. The Board reserves the right to reject any or all bids, and to increase or diminish the amount of work to be done.

Address proposals to the Board of Public Works, Corning, N. Y.

Sewerage System.

OIL CITY, PA.
The City of Oil City, Pa., proposes to build a sewer system at an estimated cost of \$48,000.00, and contractors are hereby notified that the Controller will advertise in the Oil City *Blizzard* for bids for said sewer after February 26, 1906, after which time plans and specifications will be on file in the office of the City Engineer.

C. W. MULLALLEY, Controller.

Proposal notices continued on following page.

Leading Manufacturers

Of Supplies and Equipment for Municipal and Public Work

Brick, Paving, Building and Sewer.

W. H. Arthur, Stamford, Conn.
Barr Clay Co., Streator, Ill.
Bessemer Limestone Co., Youngstown, O.
Clearfield Clay Working Co., Clearfield, Pa.
Collinwood Shale Brick Co., Rose Bldg., Cleveland, Ohio.
Federal Clay Products Co., 232 5th Ave., Pittsburg, Pa.
Flint Brick & Coal Co., Des Moines, Ia.
McAvoy Vittrified Brick Co., Philadelphia, Pa.
Metropolitan Paving Brick Co., Canton, O.
New England Steam Brick Co., Providence, R. I.
Pittsburg-Buffero Co., Frick Bldg., Pittsburg, Pa.
Purinton Paving Brick Co., Galesburg, Ill.
Suburban Brick Co., Wheeling, W. Va.
Texas & Pacific Coal Co., Fort Worth, Texas.
Western Brick Co., Danville, Ill.

Road Machinery, Rock Crushers, Etc.

Acme Road Machinery Co., Frankfort, N. Y.
Austin Mfg. Co., Chicago.
Buffalo Steam Roller Co., Buffalo, N. Y.
Climax Road Machine Co., Marathon, N. Y.
Erie Machine Shops, Erie, Pa. Asphalt Rollers.
Kelly-Springfield Road Roller Co., Springfield, O.

Roofing and Roofing Material.

A. L. Barber Asphalt Co., 17 Battery Place, N. Y.
California Asphaltum Sales Agency, Mills Building, San Francisco, Cal.
Robt. A. Keasbey Co., 100 N. Moore St., N. Y.
Warren Bros. Co., Boston, Mass.
Warren Co., E. B., Washington, D. C.

Paving Materials (See also Brick).

A. L. Barber Asphalt Co., 17 Battery Place, N. Y.
Bevier Improved Wood Pavement Co., St. Paul Bldg., New York.
California Asphaltum Sales Agency, Mills Bldg., San Francisco, Cal.
Central Bitulithic Paving Co., Detroit, Mich.
Erimus Slag Paving Brick Co., 16 Exchange Pl., New York.
Globe Asphalt Co., 405 Bakewell Bldg., Pittsburg, Pa.
Southern Bitulithic Co., Nashville, Tenn.
Standard Bitulithic Co., 253 Broadway, N. Y.
U. S. Wood Preserving Co., 29 Broadway, N. Y.
Wadsworth Stone & Paving Co., Pittsburg, Pa.
Warren Brothers Co., Boston, Mass.
Warren Asphalt Paving Co., Cambridge, Mass.

Sewer Pipe.

East Ohio Sewer Pipe Co., Irondale, O.
Federal Clay Products Co., Pittsburg, Pa.
Great Northern Sewer Pipe Co., Empire, O.
Ohio River Sewer Pipe Co., Empire, O.
Pittsburg-Buffero Co., Pittsburg, Pa.
Stratton Fire Clay Co., Empire, O.

Street Cleaning and Sprinkling Equipment.

Austin-Western Co., Chicago, Ill.
Etnyre, E. D., & Co., Oregon, Ill.
Sanitary Street Flushing Machine Co., St. Louis.
Studebaker Bros. Mfg. Co., South Bend, Ind.
Wirt & Knox Mfg. Co., 20 No. 4th St., Philadelphia, Pa.

Wagons and Carts.

Acme Road Machinery Co., Frankfort, N. Y.
Austin Mfg. Co., Chicago, Ill.
Climax Road Machine Co., Marathon, N. Y.
Fulton & Walker Co., Philadelphia, Pa.
Hawwood Wagon Co., Baldwinsville, N. Y.
Hill Cart & Wagon Works, Jersey City, N. J.

Studebaker Bros. Mfg. Co., South Bend, Ind.
Tiffin Wagon Co., Tiffin, Ohio.
Troy Wagon Works Co., Troy, O.
Watson Wagon Co., Centre & Buck Sts., Canastota, N. Y.

Water-Works Equipment and Supplies.

Artesian Well & Supply Co., Providence, R. I.
Well Drilling.
Bethlehem Fdy. & Mach. Co., South Bethlehem, Pa. Pumping Machinery.
Buffalo Meter Co., Buffalo, N. Y. Meters.
Central Foundry Co., 116 N. Nassau St., N. Y. Pipe.
Hersey Mfg. Co., So. Boston, Mass. Meters.
Jackson Filter Mfg. Co., St. Louis. Water Filters.
Ellis-Ford Pipe Cutter Co., Detroit, Mich., Pipe Cutters.
Mueller Mfg. Co., H., Decatur, Ill. Supplies.
Neptune Meter Co., New York. Meters.
Pittsburg Filter Mfg. Co., Pittsburg, Pa. Filtration Plants for Water-Works.
Pittsburg Meter Co., E. Pittsburg, Pa. Meters.
Rife Pumping Engine Co., 111 Broadway, N. Y.
John Simmons Co., N. Y. Supplies.
Union Water Meter Co., Worcester, Mass. Meters.
Washington Pipe & Foundry Co., Tacoma, Wash. Pipe, Hydrants, Valves.
Water-Works Equip. Co., 180 B'way, N. Y. Supplies.

Fire Extinguishing Equipment.

American-La France Fire Engine Co., Elmira, N. Y. Fire Engines and all Fire Department Equipment.
Eureka Fire Hose Co., 13 Barclay St., N. Y. Hose.
Fabric Fire Hose Co., Duane & Church Sts., N. Y. Hose.
Firestone Tire & Rubber Co., Akron, O. Rubber Tires.
Gamewell Fire Alarm Telegraph Co., N. Y. Fire and Police Alarm Systems.
Glazier Nozzle & Manufacturing Co., Indianapolis, Ind. Nozzles.
Seagrave Co., Columbus, O. Apparatus and Supplies.
Star Electric Co., Binghamton, N. Y. Fire Alarm Systems.

Miscellaneous.

Balto. Enamel & Novelty Co., Baltimore, Md. Enameled Signs.
Berger Mfg. Co., Canton, O. Everything in Sheet Steel. Metal Furniture.
Carson Trench Machine Co., Boston. Trench Machinery.
Cleveland Street Lighting Co., Cleveland, Ohio. Street Lamps.
Climax Supply Co., 712 Marquette Building, Chicago. Sign Posts.
Contractors Supply & Equipment Co., Chicago. Concrete Mixers, Contractors' Supplies.
Davison Foundry Co., 103-109 W. Monroe St., Chicago. Catch Basins.
Hetherington & Berner, Indianapolis. Asphalt Plants.
John Maslin & Sons, Jersey City, N. J. Contractors' Pumps.
Okonite Co., Ltd., New York. Wire.
Pacific Flush Tank Co., Chicago. Flush Tanks.
Shields, W. S., 1715 Marquette Bldg., Chicago. Valves for Sewage Disposal Works.
Soltmann, E. G., 125 E. 42d St., N. Y. Drawing Materials.
Southern Creosoting Co., Slidell, La. Creosoted Wood.
Southern Exchange Co., New York. Poles for Street Lighting.
Universal Safety Tread Co., 45 Broadway, New York. Safety Treads.
Warner Co., Chas., Wilmington, Del. Cement.
Weber Steel Concrete Chimney Co., Marquette Building, Chicago. Concrete Chimneys.

When in need of Apparatus, Machinery or Supplies, consult the MUNICIPAL JOURNAL AND ENGINEER. We will promptly furnish names, addresses and full information, also catalogues or printed matter if desired.

Proposals.**Waterworks.**

ARCADIA, FLA.

Sealed proposals will be received by the Bond Trustees of the Town of Arcadia, Fla., until 4 o'clock P. M., March 17, 1906, for Constructing Water Works Plant in the town of Arcadia, Fla., and for furnishing material for same.

Plans and specifications will be on file and may be seen at the office of the Chairman of the Bond Trustees, Mr. J. T. Youmans, and copies of specifications, forms, etc., may be obtained from the Engineer. The right is reserved to reject any or all bids.

J. T. YOUMANS, Chairman.
W. H. SIMMONS.
C. C. CHOLLAR.

W. T. McCORMICK, Engineer,
Arcadia, Fla.

Bridge.

PORT HURON, MICH.

Bids for Bascule, also Counterbalance Bridge, including plans and specifications for same, will be received at the office of the City Controller, 11 o'clock, March 30, 1906. Data and information furnished at this office, or by City Engineer.

R. D. O'KEEFE, Sup. Pub. Wks.

Garbage Disposal.

AUBURN, N. Y.

Proposals are asked for the collection and disposal of garbage for a term of years beginning Dec. 1st, 1906. Plans and bids to be submitted before April 1st.

A. F. HODGMAN, Chn. Com.

Paving

The City of Lake Charles, La., solicits bids on 26,000 yards of paving according to plans and specifications to be on file in the office of Frank Shutts, City Engineer, on Feb. 24, 1906. Bids must include all necessary earth work and drainage pipe installation and must be on file in the office of the City Clerk not later than 8 o'clock P. M., March 20, 1906.

C. H. WINTERHALER, Mayor.

Paving**BIDS WANTED.**

Notice is hereby given that bids for paving, curbing and drain tile on Houston avenue in this city, from the intersection of its northerly end with Ash street, to the intersection of its southerly end with Broadway street, will be received at my office until 8 o'clock P. M., March 13, 1906, said bids to be opened and considered at a regular meeting of the City Council to be held at said time.

Said paving is to be done with asphalt according to plans and specifications now on file in the office of City Engineer J. E. Carroll.

All bids must be accompanied by a certified check to the amount of \$2,000, made payable to the order of R. H. Robertson, City Treasurer, conditioned upon the execution of the contract within ten days after the award of same.

The right to reject any or all bids is reserved.

A. M. CHILDS, City Clerk.

CROOKSTON, MINN., Jan. 26th, 1906.

Notice of Reception of Proposals for Pavement, Etc., in the Village of Cobleskill, N. Y.

COBLESKILL, N. Y., Feb. 9th, 1906.

Notice is hereby given that sealed proposals for paving Division street and a portion of Main street in the Village of Cobleskill, N. Y., with Vitrified Brick, and portions of or all the following named streets, to-wit: Main, Rose, Elm, Washington Avenue, Park, Union, Prospect, Chapel, Lark, High, Spring, North, East, Grove, South Grand, Center and Florence streets, with macadam. Also, for surface water sewers on certain of said streets. Proposals will be received by the Board of Trustees of the Village of Cobleskill, N. Y., until one o'clock P. M., March 19th, 1906, at which time at the Trustees rooms, in said Village, they will be publicly opened.

Proposals will be received for paving in accordance with the duly adopted specifications, contract, and form of proposal which may be obtained of the undersigned upon application. Plans and maps may be examined at the office of the undersigned.

Bids should be made on the form of proposal adopted, and may be delivered to the undersigned or to any of the Board of Trustees at the time and place fixed for opening the same.

The right to reject any or all bids is hereby reserved.

WILLIAM H. GOLDING,
Clerk of the Village of Cobleskill.

DENNISTON & CO.
Builders and General Contractors.
Rochester, N. Y.

JAMES A. HART COMPANY
General Contractors
Home Life Ins. Bldg., 256-7 Broadway, New York

JOHN MAHONEY
Paving and Building
Jamestown, N. Y.

WHITMORE, RAUBER & VICINUS
Pavements, Sewers and General Contracting
279 South Ave., Rochester, N. Y.

LEGRAND BROWN
Mem. Am. Soc. C. E., Electric Railways and Pavements. Rochester, N. Y.

J. W. HOWARD, C. E., E. M.
PAVEMENT EXPERT AND TESTING
LABORATORY.
1 Broadway, New York

SPRINGFIELD**STEAM ROAD ROLLERS**

All Kinds All Sizes

MADE BY
THE KELLY-SPRINGFIELD
ROAD ROLLER COMPANY
Springfield, Ohio, U. S. A.

Send for Catalogue

The TROY BOTTOM DUMP WAGON

For general contracting purposes; made with steel axles; 3 or 4 inch tire; bottom of reinforced steel plates, one overlapping the other, so that there can be no leakage of load; 1½ to 5 yard capacity. Guaranteed against defective material or workmanship. Full description and price on request.

The TROY WAGON WORKS COMPANY

Mulberry and Race Streets,

TROY, OHIO

PITTSBURG-BUFFALO COMPANY

General Offices, Frick Building, Pittsburg, Pa.

Miners, Manufacturers and Shippers of Coal and Coke

Standard Vitrified Wire Cut and Repressed Bevel Edge Paving Brick and Paving Block, Salt Glazed Vitrified Sewer Pipe, Sidewalk Brick, Wire Cut and Repressed Mottled Building Brick, Mill Brick, Vitrified Hollow Building Block.

OWNERS OF INDIVIDUAL CARS.

CAPACITY OF BRICK, TEN MILLION ANNUALLY. CAPACITY OF SEWER PIPE, FIVE THOUSAND FEET DAILY.

**What Is Daus' Tip-Top?**

To Prove that Daus' "Tip-Top" is the best and simplest device for making **100 Copies** from pen written and **50 Copies** from typewritten original, we will ship complete duplicator, cap size, **without deposit on ten (10) days' trial.** Price \$7.50 less trade discount 33½% or **\$5 net.** THE FELIX H. A. DAUS DUPLICATOR CO., Daus Building, 111 John Street, N. Y. City

Southern White Cedar Poles

ANY LENGTH OR QUANTITY

For Town or City Electric Light Plants

SOUTHERN EXCHANGE CO., 97 Warren St., N. Y.

The Ideal Pavement THE BITULITHIC PAVEMENT

Warren Brothers Company

93 Federal Street

Boston, Mass.

TRADE MARKS: "Bitulithic," "Bitrock," "Puritan," "Bituminous Macadam"

THE GAMEWELL FIRE ALARM TELEGRAPH COMPANY

Fire and Police Alarms and Signal Systems

Used the World Over

19 Barclay Street, New York City

HIGH GRADES OF **Natural Asphalt** | The A. L. BARBER ASPHALT CO.
17 BATTERY PLACE :: NEW YORK

MOSLER

SAFES

Fire and Burglar Proof

OFFICE
SAFESBANK
SAFESHOME
SAFESVAULT
AND

SAFETY

DEPOSIT

WORK

¶ The Mosler Safe Co.'s Patented Safes are in general use by Municipal Officials, Merchants, Corporations and Bankers all over the World. ¶ The UNITED STATES and MEXICAN GOVERNMENTS use the Mosler Patented Safes for the protection of their moneys and valuables. :: :: :: :: :: ::

MOSLER SAFE COMPANY
373-375 Broadway New York

Sole Owners of MOSLER and CORLISS Patents

THE CUTLER MAILING SYSTEM AFFORDS INVALUABLE MAIL SERVICE FOR PUBLIC BUILDINGS

IN USE IN MUNICIPAL, COUNTY, STATE AND FEDERAL BUILDINGS THROUGHOUT THE COUNTRY, BEING EXPLICITLY AUTHORIZED BY THE POST OFFICE DEPARTMENT UNDER PROVISION OF A SPECIAL ACT OF CONGRESS. AS A PART OF THE POSTAL SYSTEM IT IS AVAILABLE FOR THE SERVICE OF SUCH PAPERS AS MAY BE LEGALLY SERVED THROUGH THE MAIL.

WHERE THE STANDARD AUTHORIZED MAIL CHUTE EQUIPMENT IS DESIRED, THE CUTLER MAILING SYSTEM SHOULD BE SPECIFIED BY NAME.

DESIGNATE "MODEL C" IF THE VERY LATEST AND BEST FORM AS ILLUSTRATED HERewith IS REQUIRED. INTERIOR UNDER GOVERNMENT LOCK BUT INSTANTLY ACCESSIBLE TO AUTHORIZED PERSONS.

INSTALLED IN CONNECTION WITH THE U. S. FREE COLLECTION SERVICE ONLY BY THE SOLE MAKERS AND PATENTEES.

THE CUTLER MANUFACTURING CO.
GENERAL OFFICES, CUTLER BUILDINGS, ROCHESTER, N. Y.



MODEL C, OPEN

BOOKS

On Street and Road Construction, Sewer Systems, and Water Supply

CITY ROADS AND PAVEMENTS SUITED TO CITIES OF MODERATE SIZE. Second edition, revised and enlarged.—By W. P. Judson. 200 pp. \$2.00.

STREET PAVEMENTS AND PAVING MATERIALS.—A Manual of City Pavements: the Methods and Materials of their Construction. For the Use of Students, Engineers, and City Officials. By Geo. W. Tillson, C. E. 8vo, xii + 532 pages, 60 figures. Cloth; \$4.00.

A TREATISE ON ROADS AND PAVEMENTS.—By Ira Osborn Baker, C. E. 8vo, viii + 655 pages, 171 figures, 68 tables. Cloth; \$5.00.

THE MODERN ASPHALT PAVEMENT.—By Clifford Richardson. 8vo, 580 pages. Cloth; \$3.00.

HIGHWAY CONSTRUCTION.—A Treatise on Highway Construction, Designed as a Text-book and Work of Reference for All Who May be Engaged in the Location, Construction, or Maintenance of Roads, Streets, and Pavements. By A. T. Byrne, C. E. Fourth Revised and Enlarged Edition. 8vo, xl + 895 pages, 306 illustrations. Cloth; \$5.00.

MUNICIPAL PUBLIC WORKS: THEIR INCEPTION, CONSTRUCTION, AND MANAGEMENT.—By S. Whinery, C. E. 341 pages. Cloth; \$1.50.

ENGINEERING CONTRACTS AND SPECIFICATIONS. Including a Synopsis of the Law of Contracts; engineering specifications and accompanying documents; specific, descriptive, or technical clauses in specifications, including illustrated specifications for excavations and embankments; cement, mortar, concrete and masonry; street pavements and materials; sewers; water pipe; electric light station, etc.—By Prof. J. B. Johnson. 6 x 9 in.; 566 pp. \$3.00.

SEWER DESIGN.—By H. N. Ogden, C. E., Asso. M. Am. Soc. C. E. 12mo, xi + 234 pages, 54 figures, 5 plates. Cloth; \$2.00.

SEWERAGE.—The Designing, Construction, and Maintenance of Sewerage Systems. By A. Prescott Folwell, M. Am. Soc. C. E. Fifth Edition, Revised and Enlarged. 8vo, x + 455 pages, illustrated. Cloth; \$3.00.

SEWERS AND DRAINS FOR POPULOUS DISTRICTS: With Rules and Formulae for the Determination of Their Dimensions Under all Circumstances.—By Julius W. Adams, C. E. One vol. 8vo, 228 pp., 84 illustrations and one folding map. Cloth; \$2.50.

PLAT AND PROFILE BOOK FOR CIVIL ENGINEERS AND CONTRACTORS. Containing 28 pages of Profile Paper and also handy tables for Excavation and Embankment, Strength of Materials, Size of Sewer for Various Slopes and Drainage Areas, and information for making Estimates in Electric Construction.—By H. F. Dunham. Flexible leather, oblong; 9 x 4 ins. \$1.00.

EARTHWORK AND ITS COST.—By L. P. Gillette. Cloth; 5 x 7 1/2 ins.; 256 pp.; illustrated. \$2.00.

ROCK EXCAVATION METHODS AND COST.—By Halbert P. Gillette, Author of "Earthwork and Its Cost." Cloth; 5 x 7 1/2 ins.; 384 pp. \$3.00.

THE ELEMENTS OF WATER SUPPLY ENGINEERING.—By E. Sherman Gould. 6 x 9 in.; 168 pp. \$2.00.

WATER-FILTRATION WORKS.—By James H. Fuertes, member Am Soc. C. E. 12mo, xviii + 283 pages, 45 figures and 20 half-tones; \$2.50.

WATER-WORKS FOR SMALL CITIES AND TOWNS. Describing the methods of construction of the various portions of a water-works plant.—By John Gooddell. 281 pages, 53 illustrations. Price, \$2.00 net.

THE PURIFICATION OF PUBLIC WATER SUPPLIES.—By John W. Hill, M. Am. Soc. C. E. 8vo. Cloth; 304 pages; 35 illustrations. \$3.00.

WATER-SUPPLY ENGINEERING.—By A. Prescott Folwell. Second Edition, Revised and Enlarged. 8vo, xiv + 570 pages, illustrated with 95 figures and 19 full-page plates. Cloth; \$4.00.

WATER-WORKS DISTRIBUTION: A Practical Guide to the Laying Out of Systems of Distributing Mains for the Supply of Water to Cities and Towns.—By J. A. McPherson, A. M. Inst. C. E. 8vo. Cloth, with Folding Plates, Diagrams and Illustrations. Price, \$2.50.

THE EXAMINATION OF WATER AND WATER SUPPLIES.—By John C. Thresh. 460 pages, numerous plates and illustrations. Price, \$2.15.

PUBLIC WATER-SUPPLIES.—By F. E. Turneaure, C. E., and H. L. Russell, Ph. D. With a Chapter on Pumping-machinery, by D. W. Mead, C. E., M. Am. Soc. C. E. 8vo, xiv + 746 pages, 231 figures. Cloth; \$5.00.

A PRACTICAL TREATISE ON WATER-SUPPLY ENGINEERING: Relating to the Hydrology, Hydrodynamics, and Practical Construction of Water-Works in North America. With numerous Tables and Illustrations.—By J. T. Fanning, C. E., Member of the Am. Soc. C. E. Seventh Edition, Revised, Enlarged, and New Tables and Illustrations added. 644 pages, 200 illustrations, fine Cloth binding. Price, \$5.00.

SOME DETAILS OF WATER-WORKS CONSTRUCTION.—By W. R. Billings. 96 pages, 28 illustrations. Price, \$2.00 net.

EARTH AND ROCK EXCAVATION: A Practical Treatise.—By Charles F. Reim, C. E., Author of "Tunneling." With Tables, and many Diagrams and Engravings. 8vo. Cloth. Illustrated. About 365 pages. Price, \$3.00 net.

CEMENT AND CONCRETE.—A Treatise Designed Especially for American Engineers, Covering the Manufacture, Properties and Testing of Cement, and the Preparation and Use of Cement Mortars and Concretes. Special Attention is Given to the Costs of Cement and Concrete for Different Uses and Under Various Conditions. By Louis Carlton Sabin. 504 pages, 161 tables of tests. Price, \$5.00 net.

Any of the above or any book in print sent promptly on receipt of price.

MUNICIPAL JOURNAL AND ENGINEER

Flatiron Building, Madison Square, New York